

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/017985

A. CLASSIFICATION OF SUBJECT MATTER

H01L31/042 H01L31/05 H01L31/048

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 013, no. 097 (E-723), 7 March 1989 (1989-03-07) & JP 63 271978 A (SHARP CORP), 9 November 1988 (1988-11-09) abstract	1,4,10
A	----- PATENT ABSTRACTS OF JAPAN vol. 1999, no. 05, 31 May 1999 (1999-05-31) & JP 11 031715/A (MATSUSHITA ELECTRIC IND CO LTD), 2 February 1999 (1999-02-02) abstract ----- -/--	1,8,10, 17

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

31 October 2005

Date of mailing of the international search report

20. 01. 2006

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Visentin, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/017985 ✓

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 16, 8 May 2001 (2001-05-08) & JP 2001 025891 A (MATSUSHITA ELECTRIC IND CO LTD), 30 January 2001 (2001-01-30) abstract -----	1,8,10, 17
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 199 (E-1352), 19 April 1993 (1993-04-19) -& JP 04 343481 A (CANON INC), 30 November 1992 (1992-11-30) abstract; figures 1,3-6 -----	1,2,4,5, 10,12-14
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 13, 30 November 1999 (1999-11-30) & JP 11 214733 A (KYOCERA CORP), 6 August 1999 (1999-08-06) abstract -----	1,10
A	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 04, 4 August 2002 (2002-08-04) & JP 2001 345458 A (KYOCERA CORP), 14 December 2001 (2001-12-14) abstract; figure 1 -----	1,10
A	US 5 478 402 A (HANOKA ET AL) 26 December 1995 (1995-12-26) -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2004/017985

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 63271978 / A	09-11-1988	NONE	
JP 11031715 / A	02-02-1999	JP 3425332 B2	14-07-2003
JP 2001025891 / A	30-01-2001	NONE	
JP 04343481 / A	30-11-1992	JP 2768566 B2	25-06-1998
JP 11214733 / A	06-08-1999	NONE	
JP 2001345458 / A	14-12-2001	NONE	
US 5478402 / A	26-12-1995	AU 1840695 A	04-09-1995
		DE 69532904 D1	27-05-2004
		DE 69532904 T2	02-09-2004
		EP 0694213 A1	31-01-1996
		HK 1014400 A1	14-01-2005
		WO 9522843 A1	24-08-1995